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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,767	10/31/2003	Xiao Hui Cheng	P/4076-61	2852

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EXAMINER	
LU, TONY W	

ART UNIT	PAPER NUMBER
2878	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/698,767	CHENG ET AL.	
	Examiner	Art Unit	
	Tony Lu	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-32 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-32 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 31 October 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 29 is objected to because of the following informalities:

As for claim 29, the antecedent basis for "the motor" is unclear.

Appropriate corrections and clarifications are required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,4,5,7-11,15,16,19,20-25,28, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka US5621218.

With respect to claim 16, Tanaka discloses an inspection system for determining a height of a point on a wire loop, comprising: a height gauge device(307) being positioned over the wire loop for projecting incident light(302a,302b) to illuminate the point and for receiving reflected light produced from the incident light; and a processor coupled to the height gauge device for determining from a characteristic of the reflected light the height of said point and/or a highest point of the wire loop relative to a reference surface(read col.5-6).

With respect to claim 19, per the above discussion, Tanaka discloses the system including an illumination lighting system(303a,303b, semiconductor laser)

adapted to project illuminating light onto a predetermined portion of the wire loop and a light receptor(306) adapted to receive light reflected from the portion for approximating a location of a highest position on the wire loop based upon characteristics of the light reflected(col.6).

With respect to claim 20, per the above discussion, Tanaka discloses the illuminating lighting system is configured such that an angle of incidence of the illuminating light projected at the location is substantially normal to a profile of the wire loop in that location(fig.3).

With respect to claim 21, per the above discussion, Tanaka discloses the system including a positioning device(308) configured to move the height gauge device relative to the wire loop for determining the heights of a plurality of points on the wire loop.

With respect to claim 22, per the above discussion, Tanaka discloses the height gauge is coupled to the positioning device for movement while the wire loop is maintained substantially stationary(fig.3).

With respect to claims 23-25, per the above discussion, Tanaka discloses the system including a scanning path comprising a path of relative movement between the height gauge device and the wire loop such that incident light projected from the height gauge intersects a length of the wire loop(fig.3), wherein the scanning path intersects the lengths of a plurality of wire loops and/or the wire loop at the plurality of positions(col.6-7).

With respect to claim 28, per the above discussion, Tanaka discloses the positioning device(308) is coupled to the height gauge device for changing a height of the height gauge device relative to the wire loop(col.12).

With respect to 32, per the above discussion, Tanaka discloses a position sensitive device(306) coupled to the height gauge device for receiving reflected light produced from the incident light.

Tanaka's system inherently performs the claim method steps(claims 1,4,7-11 and 15).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka US5621218 in view of Svetkoff et al US6181425.

With respect to claims 17 and 18, per the above discussion, Tanaka fails to disclose the height gauge device includes a triangulation type sensor and/or a confocal type sensor.

Svetkoff et al, in the same field of endeavor as Tanaka, disclose an inspection system including a inspection device(10) with a triangulation type sensor(16,17) and a confocal type sensor(18).

Although Tanaka lacks a clear teaching of a triangular type sensor and/or a confocal type sensor, selecting a specific sensor type would have been obvious to one of ordinary skill in the optics art in order to provide desired detecting performances of the system.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tanaka's system by utilizing a triangulation type sensor and/or confocal type sensor taught by Svetkoff in order to provide more control to the detecting performances of the system.

Claims 2,3,6,12-14,26,27 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka US5621218.

With respect to claims 26 and 27, per the above discussion, Tanaka fails to teach a memory device for recording heights of points on the wire loop.

Although Tanaka teaches the use of memory devices for recording data/information for calculating/determining height points of the wire loop but lack a clear inclusion of recording heights of points on the wire loop, it would have been inherently included, however, if not, it would have been obvious to one of ordinary skill in the art to use a memory device to record the heights of the points on the wire loop in order to provide an easier comparisons of the heights of the points on the wire loop.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tanaka accordingly in order to provide more control to the monitoring of the heights of the points on wire loop.

With respect to claim 29, per the above discussion, Tanaka fails to teach a linear motor is being used to drive the positioning device.

Although Tanaka lack a clear teaching of the specific type of motor is being used to drive the positioning device, selecting a specific type of motors would have been obvious to one of ordinary skill in the electronic art in order to provide a desire driving mechanism for the positioning device.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tanaka accordingly in order to provide more control to the driving mechanism of the positioning device.

With respect to claim 30, per the above discussion, Tanaka fails to teach the height gauge device is positioned adjacent a wire bonding optics module.

Although Tanaka fails to teach the height gauge device is positioned adjacent a wire bonding optics module, position a height gauge device adjacent to other related devices such as a wire bonding optics module would have been obvious to one of ordinary skill in the art in order to provide a compact design of the inspection system.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tanaka accordingly in order to provide a more compact design for the elements/components of the system.

With respect to claim 31, per the above discussion, Tanaka fails to teach the illumination lighting system uses a laser diode to project incident light.

Although Tanaka disclose the illumination light system uses the semiconductor laser but lack a clear teaching of whether or not the semiconductor laser is a laser

diode, selecting a specific types of laser emitter and/or light source would have been obvious to one of ordinary skill in the art in order to provide sufficient and/or stronger light for the system.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tanaka by utilizing a laser diode in order to provide a desired light source for the system.

With respect to claims 2,3,6 and 12-14, per the above discussion, the proposed system of Tanaka inherently performs the claimed method steps.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Lu whose telephone number is 5712728448. The examiner can normally be reached on M-F 9:00am- 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 5712722328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL

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